

North American Drought Monitor – June 2005

Canada: Drought conditions in British Columbia were greatly alleviated as a result of sustained June rainfall, although a region of south-central BC continued to be assessed as abnormally dry (D0). Much of southern BC received above normal precipitation, with East Kootenay, West Kootenay and Kettle receiving 200-300 percent of normal June precipitation. The south coast and Vancouver Island received near average precipitation amounts, while the northern interior was drier, generally receiving 60-90 percent of average June precipitation. Streamflows increased throughout most of the southern interior and south coast. Areas of concern for low summer streamflow continued to be the Similkameen and Tulemeen rivers, the Coldwater and Nicola rivers, the lower Fraser valley, and east Vancouver Island. Groundwater levels in the southeast interior rose considerably, while other wells exhibited small rises or stopped declining.

The Prairie provinces of Alberta, Saskatchewan, and Manitoba received heavy rainfall during the month of June, alleviating the drought conditions that had persisted through May in southern Alberta and southwest Saskatchewan. In Alberta, June precipitation was highly variable, with less than 25 mm falling in the central Peace Region while many locations in the southern and central regions received more than 200mm. Very localized areas of soil moisture concern were centered on Vegreville and Whitecourt. The central Peace River Region may be of concern if July remains dry. Increased June precipitation produced widespread surplus topsoil moisture conditions through much of Saskatchewan, especially in the southeast. Provincially, more than 40 percent of cropland was rated in surplus topsoil moisture condition. Although cool and wet weather hampered crop development, a majority of crops were in good or excellent condition. Heavy June rainfall caused widespread flooding and excess moisture conditions across southern Manitoba and the Interlake region. In excess of one million acres of land could not be seeded. Cold and wet conditions significantly impeded crop development in many areas. June rainfall amounts of 200-300 mm were recorded in parts of southern and southeastern Manitoba.

Some areas of southern Ontario continued to experience low rainfall amounts through June. Abnormally dry (D0), and moderate drought (D1) conditions extended into northeast Ontario and western Quebec. Conditions were driest in southern Ontario, where a number of stations reported less than 60 percent of average precipitation for June and most stations reported less than 60 percent of average for the three month period ending June 30. In northeast Ontario, most stations reported June precipitation of less than 80 percent of average, with five stations below 60 percent and another five stations below 40 percent of average. All but two stations in the northeast reported less than 80 percent of average for the past three months. June precipitation in northwest Ontario was closer to average levels and most stations reported above average. Some areas recorded 12 days in June with temperatures greater than 30°C, causing some heat stress for sensitive crops such as canola. Some crops in the south and east began to show moisture stress, including corn and cereals. Most streamflow gauging stations were near (south and northeast ON) or above (northwest ON) the average using the criteria defined by the Ontario Ministry of Natural Resources.

In the Great Lakes basin, only the Lake Superior basin received greater than average precipitation for June. Lakes Michigan-Huron (68%), Erie (48%), and Ontario (72%) basins all received significantly less than average precipitation. The level of Lake Superior were expected to continue to rise during July, while lakes Michigan-Huron were expected to remain the same, and lakes St. Clair, Erie, and Ontario were expected to continue to decline.

Most of Quebec experienced warm weather interspersed with rainstorms during the month of June, with some areas recording ten or more days of temperatures exceeding 30°C. Some locations in western parts of Quebec were rated abnormally dry (D0) or moderate drought (D1). If these areas remain dry into July, moisture stress could become a significant concern.

No significant drought impacts were observed in the Atlantic provinces during June. Newfoundland continued to be classified as abnormally dry (D0), but there were no reported agricultural impacts.

United States: During June, drought broadened its grip in an area stretching from the western half of the Gulf Coast region northeastward into the Great Lakes States. An area from northeastern Texas to the southern tip of Lake Michigan (near Chicago), which had been categorized as abnormally dry (D0) or in moderate drought (D1) at the end of May, deteriorated into a nearly continuous band of severe to extreme drought (D2 to D3) in late June. Most of this region experienced less than half its normal June rainfall, plus temperatures that averaged 2 to 4°F above normal, especially around the Great Lakes region. Agriculture was among the hardest hit sectors by the untimely, growing-season drying and warming trends. For example, Illinois corn—rated 60 percent good to excellent and 7 percent very poor to poor by the U.S. Department of Agriculture on May 29—declined sharply in condition to 25 percent good to excellent and 37 percent very poor to poor by July 3. Historically, according to the National Climatic Data Center (NCDC), it was the fifth and eighth driest June on record (since 1895) in Texas and Illinois, respectively. In the Great Lakes region, it was the second, second, sixth, and ninth warmest June in Wisconsin, Michigan, Ohio, and Illinois during the past 111 years, according to NCDC.

Meanwhile, abnormal dryness (D0) developed during June in much of the Ohio Valley and the northern Mid-Atlantic States, while atypically heavy June showers continued to ease hydrological drought concerns across the northern High Plains and Northwest. In addition, the rains and unseasonably cool weather (June departures between -2 and -6°F) delayed the start of the summer wildfire season in the Northwest. The Northeastern dryness was unusual, because the rapid drying trend followed a long period of wet conditions that had produced major flooding as recently as early April. However, near-record June warmth (temperatures averaging 2 to 6°F above normal) most likely aided the rapid onset of the Northeastern dryness. The Northwestern wetness—which reduced the region’s maximum drought intensity from extreme to severe drought (D3 to D2)—was also unusual because of the rapid shift from near-record dryness that had affected the region from October 2004 to early March 2005. Continuing Northwestern rains were particularly beneficial for reservoirs still low from the effects of a multi-year drought, since agricultural producers were able to delay the onset of irrigation activities. Elsewhere, frequent June showers and thunderstorms brought some relief from abnormal dryness and moderate drought (D0 and D1) to portions of the central and southern Plains, while vestiges of a multi-year drought lingered across the Southwest in the wake of a phenomenally wet cold season. One manifestation of the Southwest’s former drought severity was a significant increase in wildfire activity during June. Catalysts for the Southwestern fires included dying abundant grasses and brush following the wet winter, and a load of larger fuels (dead or dying trees) from the effects of long-term drought.

Mexico: Dry and warm weather conditions continued during the first 3 weeks of June over central and southern Mexico. The National Meteorological Service (SMN) reported that precipitation for the month was below normal across 71% of the country, with a monthly national average of 89 mm, in comparison with a long-term average (1941-2004) of 104 mm. The summer rainy season was slow to advance northward during June. The onset of rainfall was 3 to 4 weeks late from parts of Oaxaca northward to southern Nayarit and central Mexico including the states of Morelos, Mexico, D. F., Hidalgo, Querétaro, Guanajuato, Aguascalientes and San Luis Potosí. The state of Mexico is the most affected as the local government reported that corn production was significantly damaged (125,000 Ha; 308,880 acres). In June, drought conditions also increased along the Mexico-US border from Coahuila to Tamaulipas, where dry and warm weather conditions prevailed throughout the month. Over this region, a small area of severe drought (D3) was introduced from Reynosa eastward to the Gulf of Mexico coast. Concern has arisen over northeastern Mexico since the official SMN seasonal (July-September) rainfall forecast shows precipitation below normal over Coahuila, Nuevo León, and Tamaulipas. Until the first few days of July, the monsoon circulation had tended to be weaker than normal over Northwestern Mexico, with rainfalls below normal over Sonora, Sinaloa, and Durango. In this region, an area of abnormal dryness (D0) was introduced over the northern part of Sonora.

Improvements on drought conditions were noted in the states along the southern Gulf of Mexico (Veracruz, Tabasco, and Campeche). In June, these states received an average of 158%, 168%, and 245% of their normal June rainfall, resulting in a one category improvement. Tabasco went from severe drought (D2) to moderate drought (D1), while most of Veracruz and portions of Chiapas improved to D0 (abnormally dry). A pocket of D0 is still present in northern Quintana Roo.